



K4GSO.us

The Oracle

Newsletter of the Silver Springs Radio Club

Oldest Radio Club in Marion County, FL



December 2021

President's Message

Bill Gillespie, KW5BG

Welcome to the end of a busy year. We started under the shadow of a rough year of Covid restrictions. In the spring we decided to go from Zoom meetings to in person meetings. We can't thank Tullio Dellaquila, K2PCG, enough for the use of his Zoom account for all our meetings during the Covid lock downs. I think everyone was ready to finally meet our friends face-to-face.

Our Operating Days on the last Sat of each month were a huge success. We helped our members learn new operating skills, try different modes of operation, as well as hardware skill techniques. I'm sure some online businesses were busy filling tool orders after our PowerPole and coax connector meeting. :-) Also, a big thanks to all who gave presentations at our membership meeting.

Club members started getting involved in contesting with the help of our more experienced testers. Andy, Wayne, Elbert and others helped us newbys understand the rules and software involved in reporting results. Of course, some of the rules were modified to deal with Covid distancing requirements. Thanks to everyone who helped and participated. Hopefully we can get more members participating this next year.

We all prepared for hurricane season, which fortunately didn't impact us very much. It also didn't interfere with Field Day, which by all accounts was a success. Another successful activity was the North Central Florida Outdoor Expo held at the World Equestrian Center. We got great exposure and met a lot of people interested in Ham radio.

More will be found about Hamfest in the Oracle, but everyone who helped deserves a big Thank You! It was a success only because you!

A review of the year wouldn't be complete without acknowledging our friends who became silent Keys this year. The loss of Ed Biedricki, WB2UKX, and Ed Eades,

Continued on next page....

Christmas Party

Tuesday, December 21

***** Green Clover Hall *****

319 SE 26th Terrace, Ocala

6:00 PM Mentoring & Socializing

7:00 PM Meeting & Eating

Program: Installation of Officers for 2022

SSRC Board of Directors first Tuesday, 7:00 PM,
Green Clover Hall

Upcoming Events

Jan 11 — VE Testing, 7:00 PM
Green Clover Hall

Silver Springs Radio Club Net

K4GSO Repeater

Mondays at 7:30 PM

146.610, PL 123

KC2HNC, will have a profound impact on our club for a long time.

I also want to acknowledge those members who have joined this year and have become active in every aspect of our club. I also look forward to working with the 2022 officers and directors. Everyone is a recruiter in our club and let's all work together to expand our membership.

A special Thank You goes to Marty, N4GL, for her work putting the Oracle together each month, especially keeping the President 'on time' with his 'message'. :-)

Here's wishing everyone and Merry Christmas and a safe and Happy New Year!

Oh, see you Tuesday at the party!! :-))

73, Bill Gillespie, KW5BG, KW5BGn4@gmail.com



HAMFEST 2021 Update

Elbert Wilkinson, KQ3K, Chair

Thank you to all our members who participated in making this year's Hamfest a very successful event! There was a little concern the first of Hamfest week with sickness, schedule problems and surgeries taking out some of our key workers, but we were able to shift folks to other roles and things worked out. We are Hams and used to overcoming adversity and problems in the field. Everyone seemed to keep a good sense of humor, cooperation and camaraderie which made for a great event and experience for all. This is a mark of a healthy, great club.

Our event would not have been successful without mentioning the flexibility First Christian Church has shown in working with the club to reserve the first weekend in December for our event. This was our third year there and we have already reserved it for 2022. It is a great location with excellent space for vendors, parking and amenities. We are fortunate to have the use of it. Food was provided by the FCC Scout Troop. Hot dogs, chips, water, coffee and soft drinks were sold – nothing fancy but exactly what hungry hams needed.

We started out early on Friday morning with the setup crew arriving by 7:00am to arrange tables in the Memorial and Fellowship Halls. We had just enough for all vendors who started arriving at 8:00am and were assisted by the setup crew in unloading their vans and trailers. It was a sight to behold! Setup was essentially completed by mid-afternoon. It ran like a well oiled machine thanks to all their hard work.

Saturday morning arrived really early (it usually does) with the tailgate crew arriving before 6:00am to process and park the tailgaters. The other workers arrived shortly thereafter to open both halls so the vendors could make final preparations. Doors opened at 7:30am and it was game on. Attendee traffic was steady throughout the morning but not overwhelming. The admissions table kept attendees ticketed and banded up with no problems. The weather was exceptional...cool and low humidity, just right for a hamfest.

The tailgate area was the surprise of the day with more tailgaters than in recent years. Tailgate parking was extended well onto the grass and then to the east. It is believed we haven't had that many since the last time Hamfest was held at Green Clover Hall in 2013 or 2014.

We can't thank our volunteers enough for their help and hard work. Friday setup volunteers were Jim, Bill, Doug, Travis, Carl, Darrell, Rich, Bob, Adam, Roger and Mike. Saturday volunteers were Tim, Kyle, Travis, Doug, Jim, Allan, Bruce, Hayden, Adam, Carl, Brenda, Wade, Mike, Gray, Andy, Bill and Roger, Woody, Maurice and Bob. If I have omitted anyone, please forgive me.

Following Hamfest, I sent out a request for suggestion on making our event even better. Some have responded – thank you, but if you have suggestions or comments, please send them to me. We've requested the same from the vendors. Finally (and mercifully), go ahead and mark your calendars for December 2 and 3, 2022 for Hamfest. We need help, so sign-up!

Thanks again everyone!

Silver Springs Radio Club Christmas Party

December 21, 2021

Green Clover Hall

6:00 PM Socializing and Party Setup

7:00 PM Meeting & Eating

You and your guest are invited to the SSRC Christmas Party **on Tuesday, December 21st**, at Green Clover Hall. Please bring food to share and provide a serving utensil if necessary. We request that you take leftovers home with you.

The club will provide:

- Paper plates, napkins, plastic utensils
- Hot & cold cups
- Tablecloth for serving tables
- Ice for drinks
- Soft drinks, water, and coffee



73,
Marty N4GL

Got Some New Year's Ideas for SSRC?

Call them whatever you want.. resolutions, goals, programs or activities.

Carl, KC5CMX, has added a form on the website just for that purpose. It goes to SSRC President, Bill, KW5BG and VP Jim, KN4MIV.

Check it out.

[The American Radio Relay League](#)

[The ORACLE SSRC's Newsletter](#)

[How to set up an Icom 7100 for Winlink](#)

[Goals, Programs, and activities](#)

TRADER'S

[List items for sale, trade, or want](#)

[Donate finances or equipment to the club](#)

Northern Florida Section has a new SEC

Carl Berry, KC5CMX, Interim EC Marion County FL

Arc Thames, W4CPD, is replacing Karl Martin, K4HBN who stepped down for personal reasons. An SSRC shout out to Karl for his years of service, and a big Marion County welcome to Arc with our thanks for stepping up.

<https://arri-nfl.org/2021/12/10/section-emergency-coordinator-transition/>

VE Update

Jim Burgess, KN4MIV
SSRC VP/Test Liaison

Here are the results for the November Test Session:

K4LOX - EXTRA
KO4UUO - TECH
KO4UUP - TECH
KO4TKY - GENERAL
N4AXX - GENERAL

Here are the results from the Hamfest Test Session:

KO4VJT - TECH
KO4VJU - TECH
KC1QEI - TECH
KO4VJV - GENERAL (ALSO PASSED TECH)
KS2MAN - EXTRA

We had 47 people test for a new license or upgrade during 2021 of which 44 passed at least one test for a 93.6% pass rate.

I'd like to thank all of the VE's that came out and volunteered their time to the HAM community. Here are the Session Counts for the SSRC VE's; Maurice (N4LZ) - 96; Carl (KC5CMX) - 51; Mike (W9MNC) - 49; Woody (W3HII) - 41; Ron (KS4SW) - 37; Elbert (KQ3K) - 30; Jim (KN4MIV) - 18; Jan (KK4MYM) - 8; Bill (KW5BG) - 8; Roland (KY4BD) - 3; Bob (KN4BD) - 3; Tom (W4DAX) - 1; Louie (KB1MUN) - 1; Doug (K4LOX) - 1

Great work team!

Serious Inquiries Only

Carl Berry, KC5CMX

I'm posting this with a heavy heart ...

I love amateur radio and everything that goes with it, but I'm really struggling in 2021.

I have so many requests and it's taking too long. I find it difficult to keep up with the daily chores of cooking, cleaning and maintaining my house, so I have to let go of some things.

So I decided to get rid of my equipment. Here is a list of what I am selling:

- Vacuum cleaner
- Dustpan and broom
- Mop and bucket
- Lawn mower
- String trimmer and weed puller
- Hedge trimmer
- Pressure washer

Thank you for reading and understanding ...

MEMBERSHIP

Elbert Wilkinson, KQ3K
Hamfest & Membership Chairman

It is almost membership renewal time again, so go to <https://k4gso.us/beta1/> to update your personal information. The webmasters have been working on the online membership form to make it simpler and easier to use. Let them know if something is broken. You now have several methods to pay your dues: Online via PayPal, Mail or In Person.

The board has received and approved for General Membership approval at the December meeting the following applications:

James Bilancio, KM4HI, Extra (returning member)

Kirk Brown, W4CJ, Extra

Gerald Heidt, KO4TMT, Extra

Larry Lace, KO4SZK, General

Jeffrey Taffuri, KO4NCC, General

Izzy Irizarry, KT4WA, Advanced

Doug Taylor, K4LOX, Extra

This will bring our membership up to 88 active members.

November Program was a Big Hit

Joe Scoglio, KA4WJB, presented an informative and entertaining program on military radios. Pics courtesy of N4FP & N4GL.



ATU100 Automatic Antenna Tuner Kit

By Bert Garcia N8NN

Numerous commercial automatic antenna tuning units are available priced from \$120 to well over \$1,000. As an alternative, here's an ATU for \$36 in a kit you can build in an evening [1]. The ATU is based on a design by Dave Fainitski N7DDC and uses seven relay-switched inductors and capacitors. The kit includes an OLED display that shows Power, SWR, Inductance and Capacitance. My circuit board arrived with all the surface mount components installed, including the pre-programmed microcontroller. The builder installs the through-hole components and winds the inductors. The required pushbuttons were missing. The power connector provided was not a PC mount. The builder must supply their own case. There is an optional case on Ebay for \$29, and a fully assembled version is also available on Ebay.

The ATU100 is rated at 100 watts and at least 1 watt is required for tuning. The ATU operates from 9-15 VDC at 300 mA. The most recent tuning solution is memorized and retained when power is removed. The three pushbutton functions are Tune, Bypass and Auto. In the Auto mode, the tuner will tune while transmitting, even with an SSB signal. In the manual Tune mode, a continuous carrier is required for tuning. A TX-Request signal is provided to key your transmitter if it includes that feature. I did not try using TX-Request.

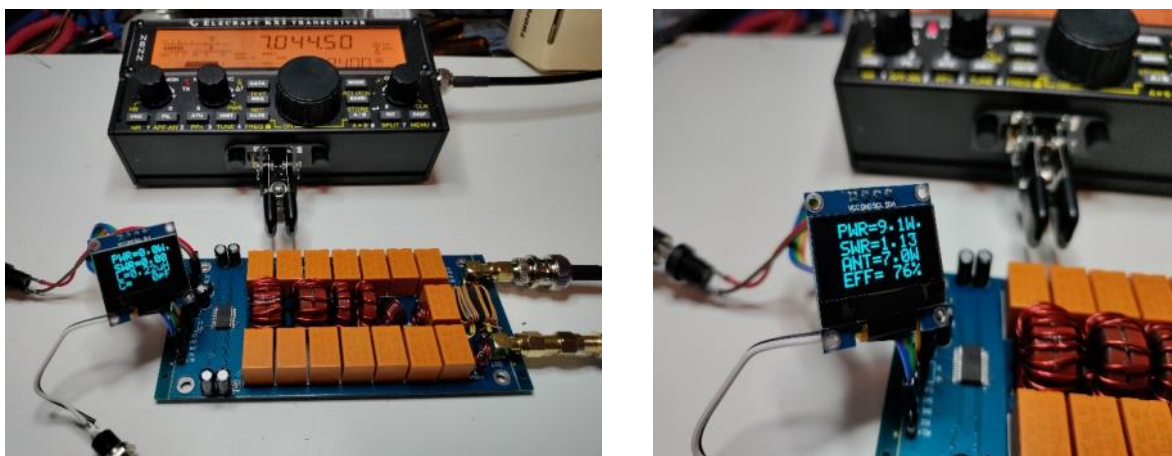


Figure 1: ATU-100 in operation. SWR 1.13 on 40 meters with an end-fed wire antenna.

To operate the ATU, transmit a steady carrier then briefly press the Tune button. The display will show "TUNE" and you will hear the relays clicking as a solution is sought. When the SWR is below 1.3:1, tuning will stop. If you see "OVERLOAD" on the display, you have applied too much carrier power to the ATU. Reduce power and press the Tune button again. The accuracy of the Power display is about 10%. The displayed values for L and C are not calculated; they are programmed into the software. The relays are not latching, so DC power must always be supplied. The current draw is 300 mA, so battery operation is not recommended.

Figure 1 shows my ATU100 connected to an Elecraft KX2 with 9.1 watts into a 126-foot end-fed wire antenna. The SWR tuned to 1.13 to 1 on 40 meters. The ATU100 was able to match the antenna on 80 to 10 meters with an SWR below 1.3 to 1 on all bands with most bands below 1.1 to 1. I found the automatic mode very convenient to use. The ATU100 started a tune cycle in less than one second if the SWR exceeded 1.3 to 1 and finished tuning in about 2 seconds on all bands.

Continued on next page....

The most challenging part of the kit is locating the assembly instructions! I have included some websites that will be useful for this kit [2]. Photographs of the assembled kit and schematics provide clues for winding the inductors. The winding polarity of T1 and T2 are not stated, so I just followed a photograph. A ribbon cable is provided to connect the display to the circuit board; however, the Clock and Data wires must be swapped at one end of the cable because the pin functions on the display and circuit board do not align. The ATU100 is fully operational even if the display is disconnected.

The input/output connectors are SMA. While they appear fragile, most SMA connectors are rated at 500 watts – more than adequate for a 100-watt ATU. I used male SMA to female BNC adapters to connect the antenna cables I use for my QRP transceivers. Male SMA to female SO-239 cable adapters were also used.

Since there are no instructions for winding the inductors, I prepared Table 1 by winding and measuring thread to determine the wire lengths. The air core inductors are 0.35-inch in diameter and were wound on a ballpoint pen then removed. The 2xT58 stacked toroids were glued together to make winding easier. For the 10:1 transformer T1-T2, use the provided insulated wire to wind the two 10 turn coils. Take care building T1 and T2. The wire is very delicate, and the insulation is difficult to remove. Use AWG 18 solid insulated wire for the single turns in T1 and T2.

Inductor	Core	Value	Diameter	Turns	Wire Size	Wire Length
L1	Air	0.05 uH	.35"	3	0.5 mm	5"
L2	Air	0.10 uH	.35"	4	0.5 mm	7"
L3	Air	0.22 uH	.35"	7	0.5 mm	12"
L4	T58	0.45 uH	-	8	0.8 mm	10"
L5	T58	1.00 uH	-	13	0.8 mm	16"
L6	2xT58	2.20 uH	-	13	0.8 mm	19"
L7	2xT58	4.40 uH	-	20	0.8 mm	25"
T1, T2	Binocular	-	-	10:1, 10:1	-	See text

Table 1: Inductor winding data.

The ATU100 provides a lot of value for the price. It works well and is fun to build. I plan to put my ATU100 in the optional case and take it on my next day in the park. Enjoy!

References:

1. ATU 100, <https://www.banggood.com/> search ATU100. May be available at a lower cost from Ebay suppliers. A fully assembled ATU100 is available on Banggood and Ebay. Search Ebay for the optional case.
2. ATU100 websites,
http://www.oz9f.dk/wp-content/uploads/2020/02/ATU-100_Extended_Board_User_Manual_eng.pdf,
<https://github.com/Dfinitiski/N7DDC-ATU-100-mini-and-extended-boards>.

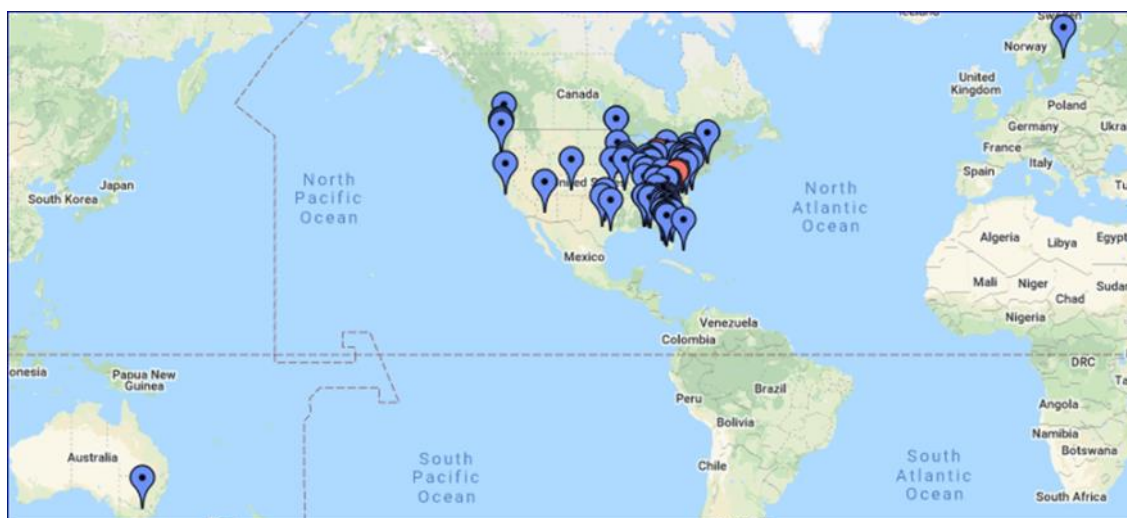
HF Digital and Driveway Portable

Darrell / KG4CCB

While attending the Gainesville Swap Meet this past spring I met Leland Gallup, AA3YB, when I purchased his like-new FT-891, LDG Tuner, and Signalink USB for a bargain price. At the Swap Meet I also attended a NVIS presentation by Reid Tillery, K9RFT and learned of the Gainesville Area NVIS net which meets on 1st and 3rd Fridays at 1900 hours on 3.970 MHz. Leland, Reid, and several others are active in Alachua County ARES and have been working to develop local communications capability without the use of VHF / UHF repeaters. This is being accomplished with HF digital primarily and NVIS antennas.

Through these interactions I have learned to use VARA HF and JS8Call so far. With **VARA HF** communication can be established directly with other HF stations (P2P) on the same frequency to send a Winlink message much like VHF Packet that Bill, KW5BG taught us about this past spring at the EOC. With VARA HF messages can also be directed to other hams thru Remote Message Servers (RMS) which are Internet connected. In addition, a Radio Only option allows messages to be directed to other hams thru RMS stations without Internet connections. **JS8Call** is like cell phone texting in that back-and-forth communications is achieved, but at a much slower speed. The advantage is that it can be accomplished in the absence of repeaters / cell towers or the Internet. I have been checking into the Florida Winlink Net and was surprised to see how widely participants are located throughout the U.S. plus Norway and Australia.

Has SSRC considered developing HF digital capabilities either in concert with or independent of the Gainesville hams?



Another ham radio activity I enjoy is portable operating. In the past year I did this while vacationing in Tennessee, while at local state parks (on one occasion with POTA Tom, W4DAX), and more often at a park near where I live, the Flemington Community Park (FCP). My NVIS antenna upgrade project described in a recent ORACLE article took place at the FCP. The other day it occurred to me I could operate out of the rear of my Forester with a roof top magnetic mount antenna while in my driveway. On the roof I placed a magnetic mount with an 20m Hamstick which was resonant at 14.10 MHz with 1.7 SWR and R of 71. The bandwidth with $SWR \leq 2.0$ was from 13.80 MHz to 14.35 MHz.



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My FT-891 was used at 75 watts and supplied with 12v by the Power Box described in a recent ORACLE article (though there is a 10-amp outlet in the rear of the Forster). Over the course of a few casual hours, I contacted three POTA Activators located in TX and NH. I saw that Tom, W4DAX, was on POTA located at a park up north near the Suwannee River but I couldn't hear him. My last contact was with Special Event Station N5B which is honoring the 100-year anniversary of the first wireless, live, play-by-play broadcast of a football game between University of Texas and Texas A&M. The photo at right is taken from the following website which has more information about the activity.

<http://old.w5ac.tamu.edu/5xb.html>

Information is also available at the N5B web page on QRZ.com

You don't have to go far to have an interesting field activity.



W. A. "Doc" Tolson at station 5XB. Photo by John West.

N2HAY New EC for Marion County FL

Gray Moffett, KC3DWY

On December 18th, Hayden Kaufman N2HAY accepted the position of Marion County FL ARES Emergency Coordinator. Hayden brings his experience and talents from the five boroughs of New York City and Montgomery County Pennsylvania.

Carl Berry KC5CMX acting EC on left, passes the baton to Hayden during the meeting of ARES, CERT and MERT attendees.





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To register please visit:
<https://www.eventbrite.com/e/skywarn-storm-spotter-class-tickets-224269715757>

Date: January 5th, 2022

Time: 6:00 PM - 8:00 PM

**Location: Marion
County Sheriff's Office
Emergency
Operations Center**

**692 NW 30th Ave
Ocala, FL 34475**

Questions?

RSullivan@Marionso.com
or
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DINO BYTES

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SSRC Classified Ads

This month we are experimenting with a classified ad section. The SSRC Board of Directors has agreed to allow business advertising in The Oracle. If you have a business service and want to place an ad in this section, contact Marty Brown, n4gl.marty@gmail.com.

At this time we are not charging for advertising space, however the board may approve fees in the future.

This section is not intended for radio equipment. Those items can be listed on the website at no charge <https://k4gso.us/traders/>

2021 SSRC Officers

President— [Bill Gillespie, KW5BG](#)
Vice President— [Jim Burgess, KN4MIV](#)
Secretary — [Ivory Williams, W6IVY](#)
Treasurer— [Tom Lufkin, W4DAX](#)
Immediate Past President— [Elbert Wilkinson, KQ3K](#)

Directors:

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